AMENDMENTS TO THE CLAIMS

1.   (Original)   A method for processing objects within a data processing system in a network, the method comprising:

receiving a message at a computing device, wherein the message comprises a set of
    message headers and a message body, wherein the message body contains a top-
    level fragment comprising a first linking element to a first next-level fragment;
    and

in response to determining that the first linking element comprises an expansion attribute,
    generating a set of linking elements in accordance with at least one parameter
    associated with the expansion attribute.

2.   (Original)   The method of claim 1 further comprising:

replacing the first linking element to the first next-level fragment with the set of linking
    elements in the message body.

3.   (Original)   The method of claim 1 further comprising:

retrieving a first source identifier from the first linking element, wherein the first source
    identifier identifies a source location for obtaining the first next-level fragment;

retrieving an expansion parameter name associated with the expansion attribute;

retrieving an expansion parameter value associated with the expansion parameter name;

forming a second source identifier for a second next-level fragment, wherein the second
    source identifier identifies a source location for obtaining the second next-level
    fragment, wherein the second source identifier comprises a portion of the first
    source identifier, the expansion parameter name, and the expansion value; and

inserting the second source identifier for the second next-level fragment in a second
    linking element in the set of linking elements.

4.   (Original)   The method of claim 3 wherein the expansion parameter name is a query parameter name and the expansion parameter value is a query parameter value.

5.   (Original)   The method of claim 4 further comprising:

submitting a query using the query parameter name and the query parameter value at an

        origin server; and

generating the second next-level fragment using results from the query at the origin

        server.

6.   (Original)   The method of claim 3 further comprising:

retrieving a set of next-level fragments using the set of linking elements;

combining the top-level fragment and the set of next-level fragments into an assembled

        fragment.

7.   (Original)   The method of claim 6 further comprising:

sending a request message for the second next-level fragment using the second source

        identifier for the second next-level fragment; and

receiving a response message comprising the second next-level fragment.

8.   (Original)   The method of claim 1 further comprising:

retrieving a cookie name parameter associated with the expansion attribute;

retrieving a cookie value associated with the cookie name; and

retrieving an expansion parameter name and an expansion parameter value from the

        cookie value.

9.   (Original)   The method of claim 8 further comprising:

parsing the cookie value as a string comprising a list of name-value pairs.

10.   (Original)   The method of claim 1 further comprising:

storing the top-level fragment in a cache maintained by a cache management unit within

        the computing device, wherein the cache management unit operates equivalently

        in support of fragment caching operations without regard to whether the

        computing device acts as a client, a server, or a hub located throughout the

        network.

11.   (Original)   The method of claim 1 wherein a linking element comprises a source identifier, wherein the source identifier is formatted as a URI (Uniform Resource Identifier).

12.   (Original)   The method of claim 1 wherein the linking element is defined using SGML (Standard Generalized Markup Language).

13.   (Original)   The method of claim 1 wherein the message is an HTTP (Hypertext Transport Protocol) Response message.

14.   (Original)   A method for processing objects within a data processing system in a network, the method comprising:

receiving a request message at a server, wherein the request message comprises a source identifier for a fragment; and

generating a response message, wherein the response message comprises a set of message headers and a message body, wherein the message body contains a top-level fragment comprising a first linking element to a first next-level fragment, and wherein the first linking element comprises an expansion attribute for multiple linking elements.

15.   (Original)   An apparatus for processing objects within a data processing system in a network, the apparatus comprising:

means for receiving a message at a computing device, wherein the message comprises a set of message headers and a message body, wherein the message body contains a top-level fragment comprising a first linking element to a first next-level fragment; and

means for generating a set of linking elements in accordance with at least one parameter associated with the expansion attribute in response to determining that the first linking element comprises an expansion attribute.

16.   (Original)   The apparatus of claim 15 further comprising:

means for replacing the first linking element to the first next-level fragment with the set
        of linking elements in the message body.

17.   (Original)   The apparatus of claim 15 further comprising:

means for retrieving a first source identifier from the first linking element, wherein the
        first source identifier identifies a source location for obtaining the first next-level
        fragment;

means for retrieving an expansion parameter name associated with the expansion
        attribute;

means for retrieving an expansion parameter value associated with the expansion
        parameter name; means for forming a second source identifier for a second next-
        level fragment, wherein the second source identifier identifies a source location
        for obtaining the second next-level fragment, wherein the second source identifier
        comprises a portion of the first source identifier, the expansion parameter name,
        and the expansion value; and

means for inserting the second source identifier for the second next-level fragment in a
        second linking element in the set of linking elements.

18.   (Original)   The apparatus of claim 17 wherein the expansion parameter name
is a query parameter name and the expansion parameter value is a query parameter value.

19.   (Original)   The apparatus of claim 18 further comprising:

means for submitting a query using the query parameter name and the query parameter
        value at an origin server; and

means for generating the second next-level fragment using results from the query at the
        origin server.

20.   (Original)   The apparatus of claim 17 further comprising:

means for retrieving a set of next-level fragments using the set of linking elements;

means for combining the top-level fragment and the set of next-level fragments into an
        assembled fragment.

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21.   (Original)   The apparatus of claim 20 further comprising:

means for sending a request message for the second next-level fragment using the second
        source identifier for the second next-level fragment; and

means for receiving a response message comprising the second next-level fragment.

22.   (Original)   The apparatus of claim 15 further comprising:

means for retrieving a cookie name parameter associated with the expansion attribute;

means for retrieving a cookie value associated with the cookie name; and

means for retrieving an expansion parameter name and an expansion parameter value
        from the cookie value.

23.   (Original)   The apparatus of claim 22 further comprising:

means for parsing the cookie value as a string comprising a list of name-value pairs.

24.   (Original)   The apparatus of claim 15 further comprising:

means for storing the top-level fragment in a cache maintained by a cache management
        unit within the computing device, wherein the cache management unit operates
        equivalently in support of fragment caching operations without regard to whether
        the computing device acts as a client, a server, or a hub located throughout the
        network.

25.   (Original)   The apparatus of claim 15 wherein a linking element comprises a
source identifier, wherein the source identifier is formatted as a URI (Uniform Resource
Identifier).

26.   (Original)   The apparatus of claim 15 wherein the linking element is defined
using SGML (Standard Generalized Markup Language).

27.   (Original)   The apparatus of claim 15 wherein the message is an HTTP
(Hypertext Transport Protocol) Response message.

28.   (Original)   An apparatus for processing objects within a data processing system in a network, the apparatus comprising:

 means for receiving a request message at a server, wherein the request message comprises a source identifier for a fragment; and

 means for generating a response message, wherein the response message comprises a set of message headers and a message body, wherein the message body contains a top-level fragment comprising a first linking element to a first next-level fragment, and wherein the first linking element comprises an expansion attribute for multiple linking elements.

29.   (Original)   A computer program product in a computer readable medium for use within a data processing system in a network for processing objects, the computer program product comprising:

 instructions for receiving a message at a computing device, wherein the message comprises a set of message headers and a message body, wherein the message body contains a top-level fragment comprising a first linking element to a first next-level fragment; and

 instructions for generating a set of linking elements in accordance with at least one parameter associated with the expansion attribute in response to determining that the first linking element comprises an expansion attribute.

30.   (Original)   The computer program product of claim 29 further comprising:

 instructions for replacing the first linking element to the first next-level fragment with the set of linking elements in the message body.

31.   (Original)   The computer program product of claim 29 further comprising:

 instructions for retrieving a first source identifier from the first linking element, wherein the first source identifier identifies a source location for obtaining the first next-level fragment;

 instructions for retrieving an expansion parameter name associated with the expansion attribute;

instructions for retrieving an expansion parameter value associated with the expansion parameter name; instructions for forming a second source identifier for a second next-level fragment, wherein the second source identifier identifies a source location for obtaining the second next-level fragment, wherein the second source identifier comprises a portion of the first source identifier, the expansion parameter name, and the expansion value; and

instructions for inserting the second source identifier for the second next-level fragment in a second linking element in the set of linking elements.

32.   (Original)   The computer program product of claim 31 wherein the expansion parameter name is a query parameter name and the expansion parameter value is a query parameter value.

33.   (Original)   The computer program product of claim 32 further comprising:
instructions for submitting a query using the query parameter name and the query parameter value at an origin server; and

instructions for generating the second next-level fragment using results from the query at the origin server.

34.   (Original)   The computer program product of claim 31 further comprising:
instructions for retrieving a set of next-level fragments using the set of linking elements;
instructions for combining the top-level fragment and the set of next-level fragments into an assembled fragment.

35.   (Original)   The computer program product of claim 34 further comprising:
instructions for sending a request message for the second next-level fragment using the second source identifier for the second next-level fragment; and

instructions for receiving a response message comprising the second next-level fragment.

36.   (Original)   The computer program product of claim 29 further comprising:
instructions for retrieving a cookie name parameter associated with the expansion attribute;

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instructions for retrieving a cookie value associated with the cookie name; and

instructions for retrieving an expansion parameter name and an expansion parameter value from the cookie value.

37. (Original) The computer program product of claim 36 further comprising: instructions for parsing the cookie value as a string comprising a list of name-value pairs.

38. (Original) The computer program product of claim 29 further comprising: instructions for storing the top-level fragment in a cache maintained by a cache management unit within the computing device, wherein the cache management unit operates equivalently in support of fragment caching operations without regard to whether the computing device acts as a client, a server, or a hub located throughout the network.

39. (Original) The computer program product of claim 29 wherein a linking element comprises a source identifier, wherein the source identifier is formatted as a URI (Uniform Resource Identifier).

40. (Original) The computer program product of claim 29 wherein the linking element is defined using SGML (Standard Generalized Markup Language).

41. (Original) The computer program product of claim 29 wherein the message is an HTTP (Hypertext Transport Protocol) Response message.

42. (Original) A computer program product in a computer readable medium for use within a data processing system in a network for processing objects, the computer program product comprising:

instructions for receiving a request message at a server, wherein the request message comprises a source identifier for a fragment; and instructions for generating a response message, wherein the response message comprises a set of message headers and a message body, wherein the message body contains a top-level fragment comprising a first linking element to a first next-level fragment, and

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wherein the first linking element comprises an expansion attribute for multiple linking elements.

43.   (Original)   A data structure for use by a computing device in defining a content object, the data structure comprising:

a set of delimiters for a markup language element;

a keyword for indicating that the markup language element is a linking element to a fragment; a source identifier for the fragment, wherein the source identifier is used to obtain the fragment; and

an expansion attribute comprising at least one parameter for expanding the linking element into a set of linking elements.

44.   (Original)   The data structure of claim 43 wherein the parameter is a cookie name identifying a cookie whose value is a list of name-value pairs that are used to form source identifiers for the set of linking elements.

45.   (Original)   The data structure of claim 43 wherein a fragment-supporting cache management unit is located within the computing device and operates equivalently in support of fragment caching operations without regard to whether the computing device acts as a client, a server, or a hub located throughout the network.

46.   (Original)   The data structure of claim 43 wherein the source identifier is formatted as a URI (Uniform Resource Identifier).

47.   (Original)   The data structure of claim 43 wherein the markup language is defined using SGML (Standard Generalized Markup Language).

48.   (Original)   The data structure of claim 43 wherein the markup language element is compatible with HTML (Hypertext Markup Language) or XML (extensible Markup Language).